PUBLIC NOTICE

US Army Corps of Engineers
Omaha District

Application No: 200190096
Applicant: Mullan Trail Estates
Waterway: Grant Creek
Issue Date: March 20, 2001
Expiration Date: April 19, 2001

30 **DAY NOTICE**

REPLY TO:
Helena Regulatory Office
U.S. Army Corps of Engineers
301 South Park
Drawer 10014
Helena, Montana 59626-0014

JOINT PUBLIC NOTICE
FOR PERMIT APPLICATION SUBMITTED TO
U.S. ARMY CORPS OF ENGINEERS
AND
MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

The application of Mullan Trail Estates, for approval of plans and issuance of a permit under authority of the Secretary of the Army is being considered by the District Engineer, U.S. Army Corps of Engineers, Omaha, Nebraska. **The project described herein is not being proposed by the Corps, but by the applicant; the Corps will evaluate the proposed work to determine if it is permittable under current laws and regulations.**

Description of Proposed Project: The project proposes to rehabilitate the existing levee embankments and Grant Creek. Approximately 2,500 linear feet (cumulatively) of new setback levee embankments would be constructed immediately adjacent to the Mullan Trail Estates subdivision. Approximately 1,200 feet of Grant Creek will be reconstructed within the setback levee system. The distance between the right and left bank levees would be widened and a new Grant Creek stream course reconstructed within. The levee system would contain a 100-year flood event of 328 cubic feet per second. The Grant Creek channel will be designed to accommodate flows associated with a two-year flood event. Grant Creek would be moved to the east from 0 to 100 feet from its present location. The Mullan Trail Estates Homeowners Association will be responsible for operating and maintaining the proposed levee embankment and channel bed. Sediments will need to be removed periodically from the channel and this material will be incorporated into the landward side of the left (easternmost) bank of the proposed levee system. The levee and embankments will be kept mown and free of trees and shrubs. The applicant has determined that no wetlands would be affected by this project. The attached maps, drawings and accompanying data describe the project in greater detail.

Location: The proposed activity is located in the NE1/4, of Section 14, Township 13 North, Range 20 West, Missoula County, Montana.

Purpose: The purpose of the proposed project is to protect properties, homes and structures from the influences of flooding surface waters originating from Grant Creek and protect water supply and sanitation systems currently located within the Mullan Trail Estates subdivision to prevent disease, contamination and unsanitary conditions.

401 Water Quality Certification: The Montana Department of Environmental Quality, 1520 East 6th Avenue, PO Box 200901, Helena, Montana 59620-0901, will review the proposed project with the intent to certify in accordance with the provisions of Section 401 of the Clean Water Act. The certification, if issued, will express the State's opinion that the operations undertaken by the applicant will not result in a violation of applicable water quality standards. The Montana Department of Environmental Quality hereby incorporates this public notice as its own public notice and procedures by reference thereto.

Cultural Resources: The Corps of Engineers, Omaha District will comply with the National Historic Preservation Act of 1966, as amended. We have checked the National Register of Historic Places and its current supplements, and there are no known National Register sites in the vicinity; however, we will evaluate input by the State Historic Preservation Office and the public in response to this public notice, and we may conduct or require a reconnaissance survey of the permit area to check for unknown historic or prehistoric properties, if warranted.

Threatened / Endangered Species: This project is in the known range of the threatened **Bull Trout, Salvelinus confluentus.** In compliance with the Endangered Species Act, a preliminary "no effect" determination has been made. Coordination with the U.S. Fish and Wildlife Service and other interested agencies will be completed to determine the effects on the threatened **bull trout** or its critical habitat.

Evaluation Factors: The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the proposed activity must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people. In addition, the evaluation of the impact of work on the public interest will include application of the guidelines promulgated by the Administrator, Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act (40 C.F.R.; Part 230).

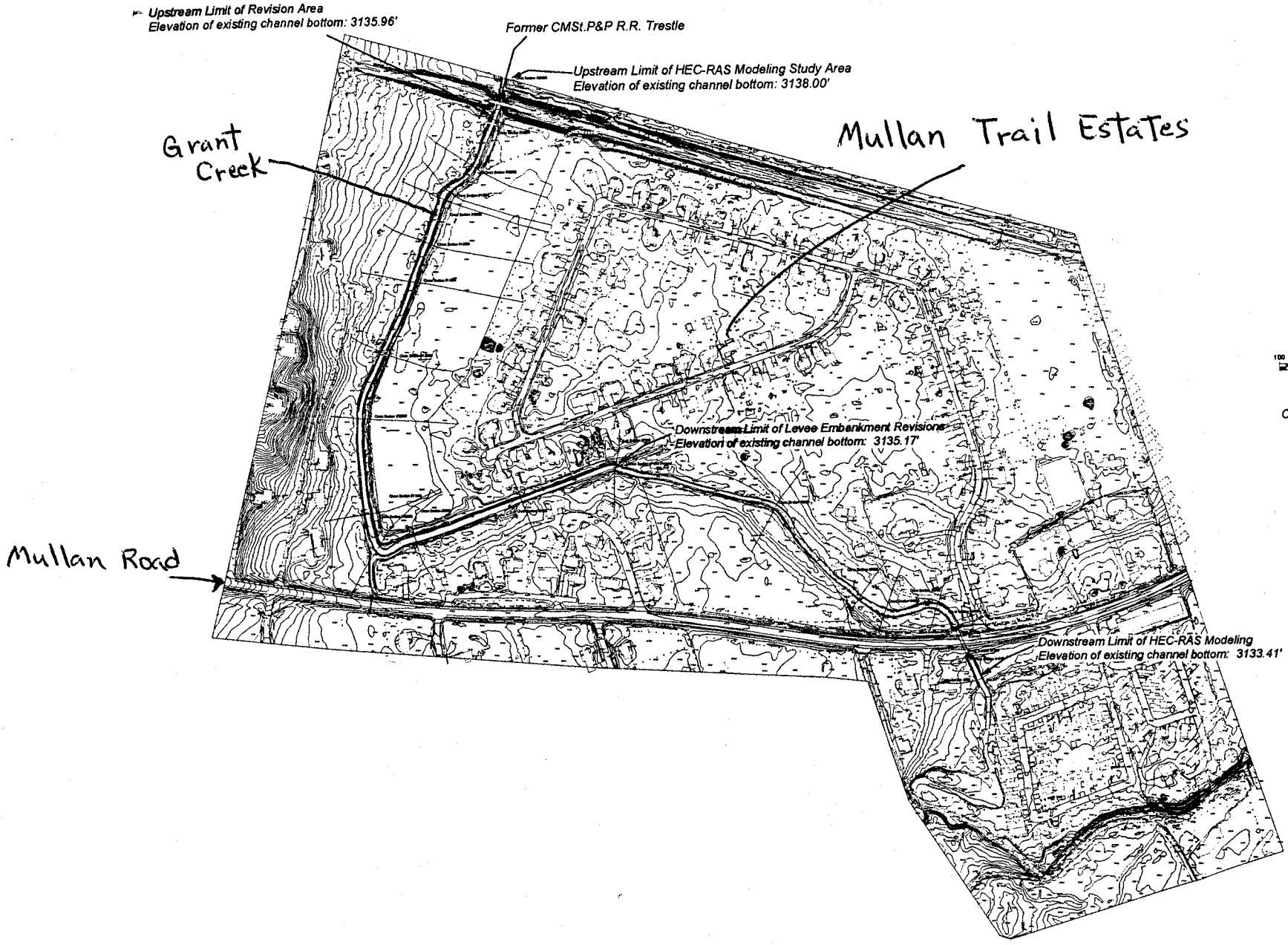
Comments: The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity. All public notice comments will be considered public information and will be subject to review by the applicant.

Any person may request, in writing and within the comment period specified in this notice, that a public hearing be held for the purpose of gathering additional information. Requests for public hearings must be identified as such and shall state specifically the reasons for holding a public hearing and what additional information would be obtained. The request must be submitted to the U.S. Army Corps of Engineers, 301 South Park, Drawer 10014, Helena, Montana 59626-0014. If it is decided that additional information is required and that a public hearing should be held, interested parties will be notified of the date, time and location.

Any interested party (particularly officials of any town, city, county, state, or Federal agency; Indian tribe; or local association whose interests may be affected by the work) is invited to submit to this office written facts, arguments, or objections on or before the expiration date listed on the front of this notice. Any agency or individual having an objection to the work should specifically identify it as an objection with clear and specific reasons. Comments, both favorable and unfavorable, will be accepted, made a part of the record and will receive full consideration in subsequent actions on this application. All replies to the public notice should be addressed to the **U.S. Army Corps of Engineers, 301 South Park, Drawer 10014, Helena, Montana 59626-0014. Please reference the Application Number found on the first page of this notice in any correspondence.** Doug McDonald, telephone number (406) 441-1375, may be contacted for additional information. You may also fax your comments to (406) 441-1380.

Comments postmarked after the expiration date of this public notice will not be considered.

Statutory Authorities: A permit, if issued, will be under the provisions of Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act.



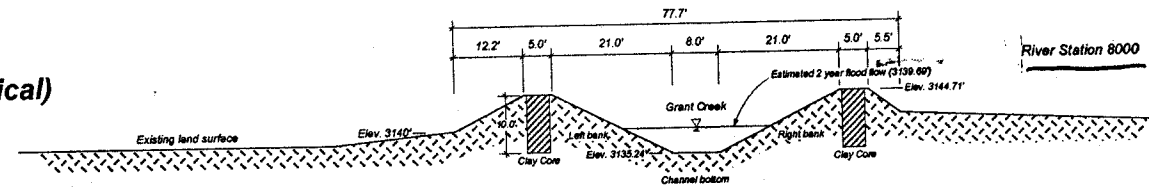
Topographical map derived from aerial photographs dated 12/4/99, Missoula Blueprint Company

TITLE: Riverine Hydraulic Analysis Location Map		SCALE:
DESIGN BY: RET/TJM	REVISION: VJM 2/8/01	2 of 10
DRAWN BY: BHN 6/1/00	REVISION	
REVIEWED BY: RET	REVISION	
APPROVED BY:	REVISION	

Typical Cross Sections of Grant Creek Channel/Levee, Mullan Trail Estates

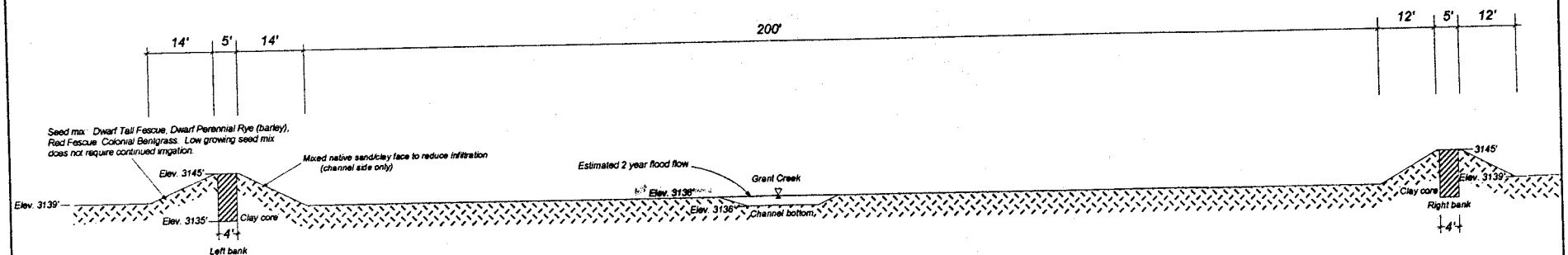
Mullan Trail Estates

Proposed Configuration (Typical)



River Station 8000 (so. end of project)

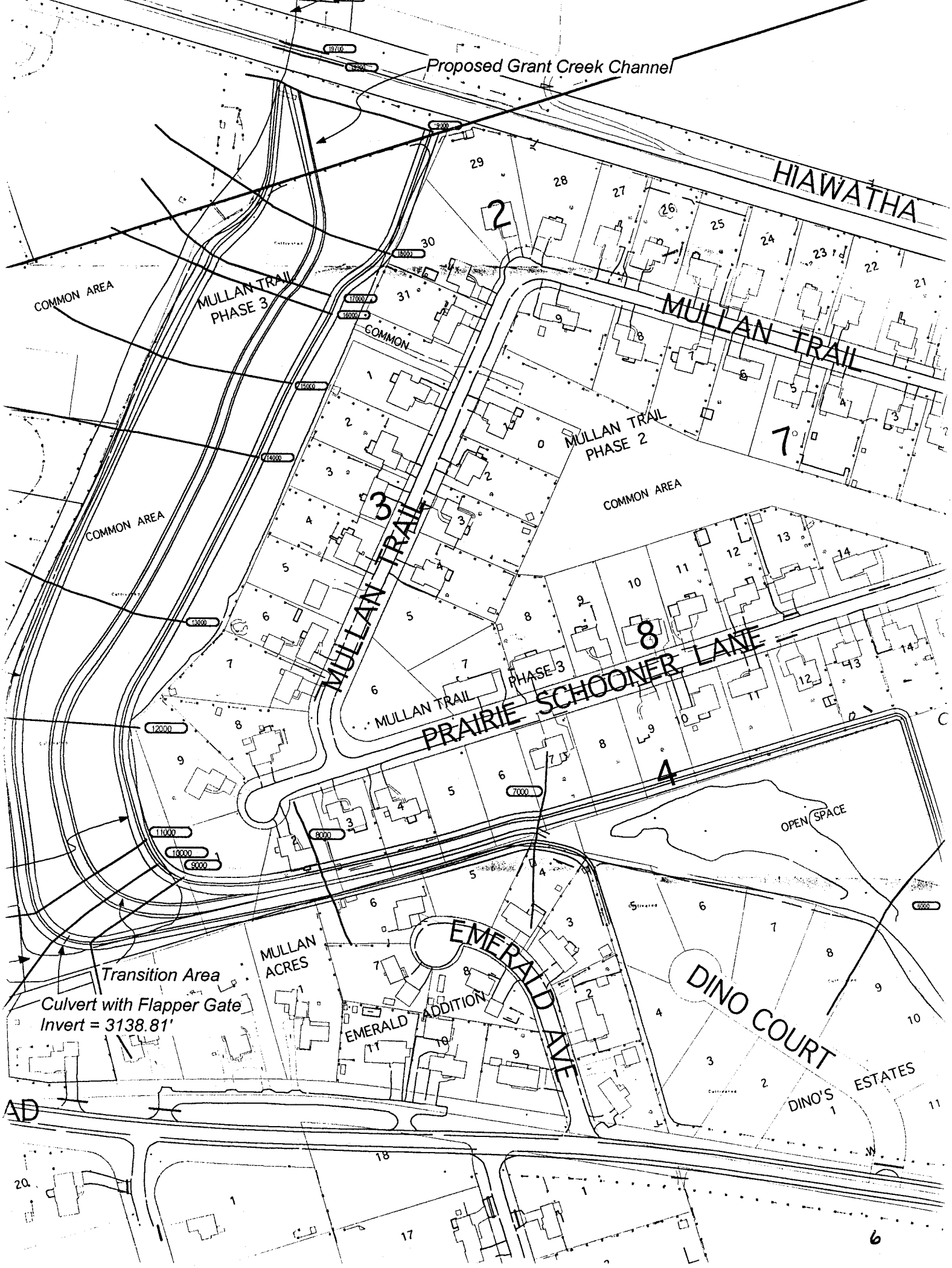
Proposed Configuration of Setback Levee (Typical)



Perspective: facing downstream

TITLE: Typical Cross Sections of Grant Creek Rehabilitation		SCALE: None
DESIGN BY: TJM	REVISION VJM 8/29/00	8 of 10
DRAWN BY: BHN 5/26/00	REVISION VJM 11/30/00	
REVIEWED BY: RET	REVISION	
APPROVED BY	REVISION	

RLK HYDRO Inc.
Hydrology, Engineering and Environmental Consultants
484 N. Main St. P.O. Box 1579
Kalispell, Montana 59903
(406) 752-2025 FAX (406) 257-4135


Proposed Grant Creek Channel
HIAWATHA
MULLAN TRAIL
MULLAN TRAIL PHASE 3
MULLAN TRAIL PHASE 2
COMMON AREA
COMMON
PRAIRIE SCHOONER LANE
PHASE 3
OPEN SPACE
EMERALD AVE
EMERALD ADDITION
MULLAN ACRES
DINO COURT
DINO'S 1 ESTATES
Transition Area
Culvert with Flapper Gate
Invert = 3138.81'
AD

ood Event (Q = 328.0 cfs)

PROPOSED **CONSTRUCTION** DATE: Start 20 / April /2001 Finish 20 / April / 2002
Is any portion of the work **already completed**? ☐ Yes X No If yes, describe the completed work.

~~IN SECTIONS 9(a) through 9(e), DESCRIBE IN DETAIL the work you plan to do. Attach additional sheets if necessary.~~

~~Attach a plan or drawing of the proposed project. Include (1) the dimensions of the project; (2) dimensions and location of fill, excavation, placement of storage or stockpile materials; (3) location of existing or proposed structures, such as buildings, utilities, roads, or bridges; (4) drainage facilities. Floodplain permit applicants are encouraged to inquire locally since additional information is required.~~

a. **Dimensions** of the project. Describe the impacted area. How many linear feet of bank will be impacted? How far will the proposed project extend into and away from the water body?

Grant Creek, an intermittent stream, is a constructed channel from I-90 to the Clark Fork River. It is also known as the Field-Dougherty Ditch in the vicinity of Mullan Trail Estates. It has been repaired, rehabilitated and maintained through the years in efforts to improve the flow capacity of the channel. The most recent work, consisting of channel cleaning, berm construction and embankment compaction was conducted in March and April, 1999. The project was reviewed and approved by the Missoula County Floodplain Administrator, (US Army Corps of Engineers Application # 199990037). A detailed discussion of the project, including engineering calculations, may be found in the Land and Water Consulting, Inc, document "Summary Report" dated July 14, 1999.

The project proposes to repair and rehabilitate existing levee embankments and construct new setback levee embankments immediately adjacent to the Mullan Trail Estates subdivision. With the construction of the setback levee system , re-alignment of portions of the ditch will be required. The symmetry of Grant Creek will be greatly improved by significantly reducing the slope of the channel side banks. The channel shall be designed to accommodate flows associated with the 2-year flood event. All channel –side and landside-side slopes shall be constructed to be 2 horizontal to 1 vertical. Observed channel-side slopes in some portions of the existing Grant Creek channel are nearly vertical.

The proposed project also creates a more hydraulically efficient system. Irregularities in the channel bottom, (Figure 1, Existing Conditions), shall be eliminated, (Figure 2, Modified Conditions), resulting in a net lowering in the water surface adjacent to Mullan Trail Estates. No significant increase in water surface elevations down stream of the Mullan Trail Estates subdivision was determined, (see section 5. below). The project shall start at Station 7000 and continue to Station 19000.

Figure 1. Water Surface and Channel Bottom Profiles
(Existing Conditions @ Mullan Trail Estates, Grant Creek)
Project Start: Station 7000
Project End: Station 19000

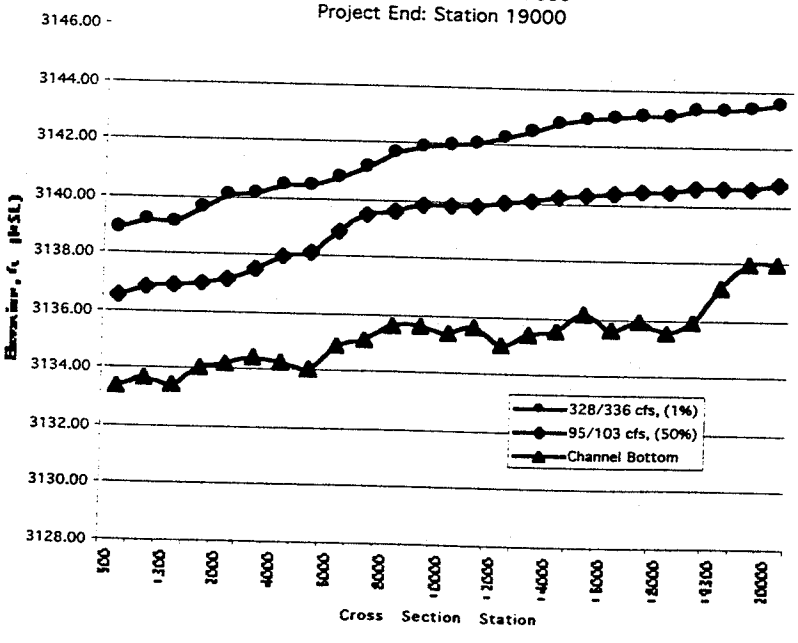
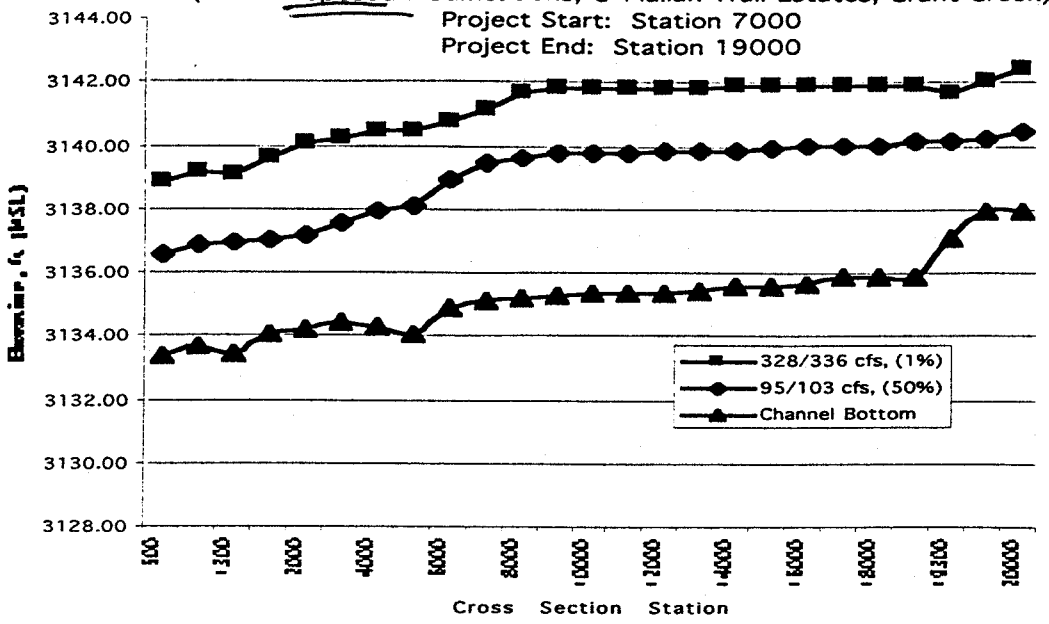


Figure 2. Water Surface and Channel Bottom Profile
(After Proposed Modifications, @ Mullan Trail Estates, Grant Creek)
Project Start: Station 7000
Project End: Station 19000



Approximately 2,500 linear feet of both the right and left banks will be involved. The existing channel will be reconstructed and relocated from 0 feet to 100 feet east of its present location where a setback levee embankment is proposed. The setback levee embankment system shall be constructed for a distance of approximately 1,900 feet downstream from the former Chicago, Milwaukee, St. Paul and Pacific (CMSt.P&P) railroad trestle. Due to space restrictions, the setback levee embankment system transitions to a narrower channel and continues downstream an additional 600 feet. A transition section will utilize a wide radius curve to eliminate the sharp 90-degree bend that currently exists.

The left bank will continue easterly along the Mullan Trail Estates property line for approximately 500 feet, tapering into the elevated portions of the local topography. An existing embankment, located west of the existing drainfield that services the Mullan Trail Estates subdivision, shall be rehabilitated. Sheet 7 of 10 shows the configuration of the proposed system in plan view. Sheet 8 of 10 presents typical cross sections of the proposed levee embankment system.

The size of the levee/embankment system proposed is the minimum required to protect the existing homes, the common drainfield and drinking water wells within the Mullan Trail Estates subdivision and surrounding properties adjacent to Grant Creek. The existing MDOT culvert and dike at the sharp bend in Grant Creek shall be maintained. A similar culvert shall be installed in the new right levee embankment at Station 10000. The invert elevation of the new culvert shall be 3138.81 feet MSL which matches the existing MDOT culvert invert.

b. How much **vegetation** and what type of vegetation will be removed or covered with fill material? How will the disturbed area be reclaimed?

Mullan Trail Estates vegetation survey was conducted in April, 2000. Based on the survey, a limited amount of natural vegetation remains along the south edge of the channel. Prior to the conversion of the land area to agricultural use and the development of Mullan Trail Estates, the land was a riparian habitat of Populus trichocarpa/Cornus stolonifera community type. Native species that persist in this area are shown on Sheet 10 of 10 as POPTRI/CORSTO c.t., and include:

Amelanchier alnifolia
Cornus stolonifera
Crataegus douglasii
Populus tremuloides
Populus trichocarpa
Prunus virginiana
Rosa woodsii
Salix lutea
Symphoricarpos albus

Table 2.
Particle Size Distribution and Critical Velocities, River Stations 7000 to 19000

Class Name	Size Range, millimeters	Mean Critical Water Velocity, fps
Fine sand	0.125-0.250	0.60
Fine silt	0.008-0.016	1.80

Source: *Sedimentation Engineering*, ASCE, 1977

Table 3.
Particle Size Distribution and Critical Velocities, River Stations 500 and 7000

Class Name	Size Range, millimeters	Mean Critical Water Velocity, fps
Very coarse gravels to small cobbles	128-32	8.00
Very coarse sand	1.000-2.000	1.10

Source: *Sedimentation Engineering*, ASCE, 1977

Table 4.
Particle Size Distribution and Critical Velocities, River Stations19000 to 20000

Class Name	Size Range, millimeters	Mean Critical Water Velocity, fps
Medium to coarse gravels	8-16	5.10
Very coarse sand	1.000-2.000	1.10

Source: *Sedimentation Engineering*, ASCE, 1977

Table 1. Summary of Materials to Construct Levee Embankments and Channel

Design Flow: 328/336 cfs Description	Left Bank, cu yds	Right bank, cu yds	Volume, cu yds	Total, cu yds
Total amount of Clay required:	2,712.7	2,184.2		4,896.9
Total volume of levee embankment:	8,685.4	7,117.4		15,802.8
In-place volumes that form left bank:			6,473.4	
In-place volumes that form right bank:			3,392.1	
In-place volume of channel, (to be filled):			(9,433.2)	
Total volume of dirt available for levee construction:			432.3	
Subtotal left bank volume required, less clay:	5,972.7	4,933.1		10,905.8
Credit existing volumes in banks after filling old channel:				432.3
Estimated amount of cut material available from new channel:			5,185.8	
Credit new channel cut volume:				5,185.8
Net levee/embankment volume excess, (shortfall):				(5,287.8)